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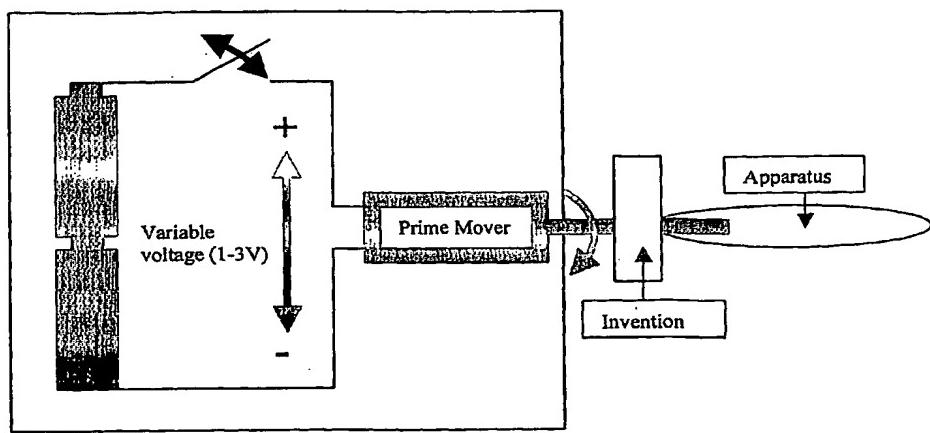
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(54) Title: MOTION CONTROL USING ELECTROMAGNETIC FORCES



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(57) Abstract: An apparatus has (a) a first component having one or more electromagnetic elements and (b) a second component having one or more electromagnetic elements and movably coupled to the first component. The second component moves with respect to the first component in a cyclical manner. The one or more electromagnetic elements of the first component interacts with the one or more electromagnetic elements of the second component during each of one or more cycles of motion of the second component with respect to the first component such that, when a constant force profile is applied to move the second component with respect to the first component, the speed of motion increases and decreases one or more times during each cycle of motion due to different levels of electromagnetic interaction between the electromagnetic elements within each cycle of motion.